UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,961	09/05/2003	Hirohito Suda	242215US90	7969

22850 7590 08/28/2006

C. IRVIN MCCLELLAND
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
CASCA, FRED A	

ART UNIT	PAPER NUMBER
2617	

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/654,961	SUDA ET AL.	
	Examiner	Art Unit	
	Fred A. Casca	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *9-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

2. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pombo et al., U.S. Patent No. 5,799,256, in view of Sato (U.S. Patent No. 5,953,677).

Referring to claim 9, Pombo discloses a mobile terminal (Abstract, FIG. 1, and col. 2, lines 52-67, "a portable communication device (104)") comprising a transmitter/receiver configured to transmit/receive a signal to/from a base station (FIG. 1, and col. 3, line 39-67, "a tunable receiver 108", "transmitter 110", "base station 102", "base station 102 sends an appropriate signal on a control channel for . . . the mobile station 104"), a reception state measurement unit configured to measure a reception state of the signal from the base station received by the transmitter/receiver (col. 5, lines 50-65, "If the signal strength of the control signal broadcast by the base station the mobile station 104 is locked to is below an acceptable level", note a reception state measurement unit inherently is provided and it measures the reception state (e.g., signal strength) of control signals from the base station), and a reception

period controller configured to control a reception period for receiving a control signal transmitted from the base station by the transmitter/receiver, based on a reception state measurement result determined by the communication state determination unit (FIGS. 2-6, col. 4, lines 30-40, and col. 5, lines 50-65, "col. 6, lines 7-16, "controller 116", "After a predetermined time period, such as 1.5 seconds, the handset periodically changes from the sleep mode to an active mode by powering up the receiver 108 and associated circuitry . . . If the signal strength of the control signal broadcast by the base station . . . is below an acceptable level . . .then every other time the mobile station wakes up", "There are three main processes **which may be combined**", "having a different periodicity", "a predetermined time period, such as 1.5 seconds", "the mobile station again powers up to search for a control channel", "low power mode", "continuous sleep mode", note that the predetermine time period e.g., 1.5 seconds is the reception period that is changed based on signal strength of control signals transmitted by the base station, and if the signal strength is not as expected, the reception period is changed to every other time, e.g., every 3 second).

Furthermore, Pombo discloses three processes, which may be combined, that contribute in reducing power consumption by consequently providing controlling the reception period. Predicting user movements, as one of the three processes, provides user mobility information that is used in reducing time during which receiver must be powered up (col. 5, lines 12-65, and col. 7, lines 1-60, "mobility", "Predicting use location allows . . . to search . . . for . . . base stations in the locations . . . the mobile station can reduce the time during which the receiver 108 must be powered up").

Pombo does not specifically disclose **a movement state measurement unit configured to measure a movement state of the mobile terminal,** and a reception period controller configured to control a reception period based on **movement state measurement result measured by the movement state measurement unit.**

Sato discloses **a movement state measurement unit configured to measure a movement state of the mobile terminal,** and a reception period controller configured to control

a reception period based on **movement state measurement result measured by the movement state measurement unit** (Abstract, figures 1-2, and col. 1, lines 20-38, 45-63, "detection circuit for detecting whether the mobile telephone apparatus is in a moving condition", "control circuit responsive to the judging circuit and the detection circuit for stopping supplying power to the radio communication circuit", "clock circuit for measuring a first interval of stopping supplying the power").

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the terminal of Pombo by incorporating the teachings of Sato and consequently providing **a movement state measurement unit configured to measure a movement state of the mobile terminal;** and allowing the controller of Pombo to control a reception period for receiving a control signal transmitted from the base station by the transmitter/receiver, based on a reception state measurement result determined by the communication state determination unit **and a movement state measurement result measured by the movement state measurement unit,** motivation being for the purpose of providing a more robust and efficient mobile terminal where controlling reception period and/or reducing power consumption is based on two elements so the reception period and power consumption is controlled more accurately and efficiently.

Referring to claim 10, the combinations of Pombo/Sato disclose the mobile terminal of Claim 9, and further disclose a communication state determination unit configured to determine whether the transmitter/receiver is in communication or stand-by, as a communication state wherein, the reception period controller controls the reception period based on the reception state measurement result, the movement state measurement result, and a communication state determination result determined by the communication state determination unit (Pombo, col. 5, line 24 through col. 6, line 43 "Predicting when the user needs to communicate allows . . . to enter a very low power mode or continuous sleep mode . . . in distinction to the sleep mode, the mobile terminal 104 does not wake up periodically (for example, every few seconds)", "for extended period of time", note that predicting when the user needs to communicate inherently allows determining the communication state of the mobile station. Further note that as a result of determining the communications state the power mode of the mobile device is determined where sleep and continuous sleep modes are used. Further note that both these modes have different

periodicities for receiving signals, e.g., every few seconds. Hence, the determining the communication state allows setting the periodicity of the reception of control signals).

Referring to claim 11, the combinations of Pombo/Sato disclose the mobile terminal of claim 9, and further disclose the reception state measurement unit measures a difference in reception states of signals from a plurality of base stations received by the transmitter/receiver, as the reception state (Pombo, col. 5, lines 24-42, "Predicting user location allows the mobile station . . . to only search for control channels broadcast by base stations in the locations", note that predicting user location inherently involves a plurality of base station in order to measure the signal strength from surrounding base stations so that the location of the mobile station is determined with reference to the base stations in the vicinity, hence, the reception state measurement unit measures a difference in reception states of signals from a plurality of base stations received by the transmitter/receiver, as the reception state).

Referring to claim 12, Pombo discloses a control device (Abstract, FIG. 1, and col. 2, lines 52-67, "a portable communication device (104)") comprising a reception state measurement unit configured to measure a reception state of the signal from a base station received by a mobile terminal (FIG. 1, col. 5, lines 50-65, col. 3, line 39-67, and col. 6, lines 7-17, col. 5, lines 50-65, "If the signal strength of the control signal broadcast by the base station the mobile station 104 is locked to is below an acceptable level", note a reception state measurement unit inherently is provided and it measures the reception state (e.g., signal strength) of control signals from the base station), and a reception period controller configured to control a reception period for receiving a control signal transmitted from the base station by the mobile terminal, based on a reception state measurement result determined by the reception state determination unit (FIGS. 2-6, col. 4, lines 30-40, and col. 5, lines 50-65, "col. 6, lines 7-16, "controller 116", "After a predetermined time period, such as 1.5 seconds, the handset periodically changes from the sleep mode to an active mode by powering up the receiver 108 and associated circuitry . . . If the signal strength of the control signal broadcast by the base station . . . is below an acceptable level . . .then every other time the mobile station wakes up", "There are three main processes **which may be combined**", "having a different periodicity", "a predetermined time period, such as 1.5

seconds", "the mobile station again powers up to search for a control channel", "low power mode", "continuous sleep mode", note that the predetermine time period e.g., 1.5 seconds is the reception period that is changed based on signal strength of control signals transmitted by the base station, and if the signal strength is not as expected, the reception period is changed to every other time, e.g., every 3 second).

Furthermore, Pombo discloses three processes, which may be combined, that contribute in reducing power consumption by consequently providing controlling the reception period. Predicting user movements, as one of the three processes, provides user mobility information that is used in reducing time during which receiver must be powered up (col. 5, lines 12-65, and col. 7, lines 1-60, "mobility", "Predicting use location allows . . . to search . . . for . . . base stations in the locations . . . the mobile station can reduce the time during which the receiver 108 must be powered up").

Pombo does not specifically disclose **a movement state measurement unit configured to measure a movement state of the mobile terminal,** and a reception period controller configured to control a reception period based on **movement state measurement result measured by the movement state measurement unit.**

Sato discloses **a movement state measurement unit configured to measure a movement state of the mobile terminal,** and a reception period controller configured to control a reception period based on **movement state measurement result measured by the movement state measurement unit** (Abstract, figures 1-2, and col. 1, lines 20-38, 45-63, "detection circuit for detecting whether the mobile telephone apparatus is in a moving condition", "control circuit responsive to the judging circuit and the detection circuit for stopping supplying power to the radio communication circuit", "clock circuit for measuring a first interval of stopping supplying the power").

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the control device of Pombo by incorporating the teachings of Sato and consequently providing **a movement state measurement unit configured to measure a movement state of the mobile terminal;** and allowing the controller of Pombo to control a reception period for receiving a control signal transmitted from the base station by the transmitter/receiver, based on

a reception state measurement result determined by the communication state determination unit **and a movement state measurement result measured by the movement state measurement unit,** motivation being for the purpose of providing a more robust and efficient mobile terminal where controlling reception period and/or reducing power consumption is based on two elements so the reception period and power consumption is controlled more accurately and efficiently.

Referring to claim 13, the combinations of Pombo/Sato disclose the control device of claim 12, and further disclose a communication state determination unit configured to determine whether the transmitter/receiver is in a communication state or stand-by state, wherein the reception period controller controls the reception period based on the reception state measurement result, the movement state measurement result, and a communication state determination result determined by the communication state determination unit (col. 5, line 24 through col. 6, line 43 "Predicting when the user needs to communicate allows . . . to enter a very low power mode or continuous sleep mode . . . in distinction to the sleep mode, the mobile terminal 104 does not wake up periodically (for example, every few seconds)", "for extended period of time", note that predicting when the user needs to communicate inherently allows determining the communication state of the mobile station. Further note that as a result of determining the communications state the power mode of the mobile device is determined where sleep and continuous sleep modes are used. Further note that both these modes have different periodicities for receiving signals, e.g., every few seconds. Hence, the determining the communication state allows setting the periodicity of the reception of control signals).

Referring to claim 14, Pombo discloses a communication system comprising a base station (Abstract, col. 1, lines 20-31, FIG. 1, and col. 2, lines 52-67, "a base station 102") and a mobile terminal (col. 1, lines 20-31, col. 2, lines 52-67, and FIG. 1, "a portable communication device (104)") comprising a transmitter/receiver configured to transmit/receive a signal to/from the base station (FIG. 1, and col. 3, line 39-67, "a tunable receiver 108", "transmitter 110", "base station 102", "base station 102 sends an appropriate signal on a control channel for . . . the mobile station 104"), a reception state measurement unit configured to measure a reception state of the signal from the base station received by the transmitter/receiver (col. 5, lines 50-65, "If the

signal strength of the control signal broadcast by the base station the mobile station 104 is locked to is below an acceptable level", note a reception state measurement unit inherently is provided and it measures the reception state (e.g., signal strength) of control signals from the base station), and a reception period controller configured to control a reception period for receiving a control signal transmitted from the base station by the transmitter/receiver, based on a reception state measurement result determined by the reception state measurement unit (FIGS. 2-6, col. 4, lines 30-40, and col. 5, lines 50-65, "col. 6, lines 7-16, "controller 116", "After a predetermined time period, such as 1.5 seconds, the handset periodically changes from the sleep mode to an active mode by powering up the receiver 108 and associated circuitry . . . If the signal strength of the control signal broadcast by the base station . . . is below an acceptable level . . .then every other time the mobile station wakes up", "There are three main processes **which may be combined**", "having a different periodicity", "a predetermined time period, such as 1.5 seconds", "the mobile station again powers up to search for a control channel", "low power mode", "continuous sleep mode", note that the predetermine time period e.g., 1.5 seconds is the reception period that is changed based on signal strength of control signals transmitted by the base station, and if the signal strength is not as expected, the reception period is changed to every other time, e.g., every 3 second).

Furthermore, Pombo discloses three processes, which may be combined, that contribute in reducing power consumption by consequently providing controlling the reception period. Predicting user movements, as one of the three processes, provides user mobility information that is used in reducing time during which receiver must be powered up (col. 5, lines 12-65, and col. 7, lines 1-60, "mobility", "Predicting use location allows . . . to search . . . for . . . base stations in the locations . . . the mobile station can reduce the time during which the receiver 108 must be powered up").

Pombo does not specifically disclose **a movement state measurement unit configured to measure a movement state of the mobile terminal,** and a reception period controller configured to control a reception period based on **movement state measurement result measured by the movement state measurement unit.**

Sato discloses **a movement state measurement unit configured to measure a movement state of the mobile terminal,** and a reception period controller configured to control a reception period based on **movement state measurement result measured by the movement state measurement unit** (Abstract, figures 1-2, and col. 1, lines 20-38, 45-63, "detection circuit for detecting whether the mobile telephone apparatus is in a moving condition", "control circuit responsive to the judging circuit and the detection circuit for stopping supplying power to the radio communication circuit", "clock circuit for measuring a first interval of stopping supplying the power").

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the communication system of Pombo by incorporating the teachings of Sato and consequently providing **a movement state measurement unit configured to measure a movement state of the mobile terminal;** and allowing the controller of Pombo to control a reception period for receiving a control signal transmitted from the base station by the transmitter/receiver, based on a reception state measurement result determined by the communication state determination unit **and a movement state measurement result measured by the movement state measurement unit,** motivation being for the purpose of providing a more robust and efficient mobile terminal where controlling reception period and/or reducing power consumption is based on two elements so the reception period and power consumption is controlled more accurately and efficiently.

Referring to claim 15, Pombo discloses a communication method (Abstract, "A method and apparatus reduces power consumption in a portable communication device"), comprising receiving a signal from a base station (FIG. 1, and col. 3, line 39-67, "a tunable receiver 108", "transmitter 110", "base station 102", "base station 102 sends an appropriate signal on a control channel for . . . the mobile station 104"); measuring a reception state of the signal from the base station (col. 5, lines 50-65, "If the signal strength of the control signal broadcast by the base station the mobile station 104 is locked to is below an acceptable level", note a reception state measurement unit inherently is provided and it measures the reception state (e.g., signal strength) of control signals from the base station), and controlling a reception period for receiving a

control signal transmitted from the base station by the mobile terminal, based on a reception state measurement result (FIGS. 2-6, col. 4, lines 30-40, and col. 5, lines 50-65, "col. 6, lines 7-16, "controller 116", "After a predetermined time period, such as 1.5 seconds, the handset periodically changes from the sleep mode to an active mode by powering up the receiver 108 and associated circuitry . . . If the signal strength of the control signal broadcast by the base station . . . is below an acceptable level . . .then every other time the mobile station wakes up", "There are three main processes **which may be combined**", "having a different periodicity", "a predetermined time period, such as 1.5 seconds", "the mobile station again powers up to search for a control channel", "low power mode", "continuous sleep mode", note that the predetermine time period e.g., 1.5 seconds is the reception period that is changed based on signal strength of control signals transmitted by the base station, and if the signal strength is not as expected, the reception period is changed to every other time, e.g., every 3 second).

Furthermore, Pombo discloses three processes, which may be combined, that contribute in reducing power consumption by consequently providing controlling the reception period. Predicting user movements, as one of the three processes, provides user mobility information that is used in reducing time during which receiver must be powered up (col. 5, lines 12-65, and col. 7, lines 1-60, "mobility", "Predicting use location allows . . . to search . . . for . . . base stations in the locations . . . the mobile station can reduce the time during which the receiver 108 must be powered up").

Pombo does not specifically disclose **measuring a movement state of the mobile terminal** and controlling a reception period based on **movement state measurement result.**

Sato discloses **measuring a movement state of the mobile terminal** and controlling a reception period based on **movement state measurement result** (Abstract, figures 1-2, and col. 1, lines 20-38, 45-63, "detection circuit for detecting whether the mobile telephone apparatus is in a moving condition", "control circuit responsive to the judging circuit and the detection circuit for stopping supplying power to the radio communication circuit", "clock circuit for measuring a first interval of stopping supplying the power").

It would have been obvious to one of the ordinary skill in the art at the time of invention to modify the terminal of Pombo by incorporating the teachings of Sato and consequently providing **a movement state measurement unit configured to measure a movement state of the mobile terminal;** and allowing the controller of Pombo to control a reception period for receiving a control signal transmitted from the base station by the transmitter/receiver, based on a reception state measurement result determined by the communication state determination unit **and a movement state measurement result measured by the movement state measurement unit,** motivation being for the purpose of providing a more robust and efficient mobile terminal where controlling reception period and/or reducing power consumption is based on two elements so the reception period and power consumption is controlled more accurately and efficiently.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred A. Casca whose telephone number is (571) 272-7918. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid, can be reached at (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LESTER G. KINCAID
SUPERVISORY PRIMARY EXAMINER